

REMARKS

This Amendment is in response to the Office Action mailed April 12, 2007. The Examiner set a shortened statutory period for reply of three (3) months, making the present Amendment due by July 12, 2007. Accompanying this amendment is a Petition for a two-month extension of time and appropriate fee, making this amendment due on September 12, 2007.

In the present paper, claims 1, 4, 5 and 8 are amended, and claim 14 is added. The Examiner has withdrawn claims 2, 6, 7 and 9-12. Claims 1, 3-5, 8, 13 and 14 are presented for the Examiner's consideration.

Election/Restrictions

Applicants acknowledge the Examiner's restriction of the claims to the species elected by Applicants with traverse, and assert their right to reintroduction of the withdrawn claims upon allowance of a generic claim or upon review by petition under 37 CFR 1.144.

The Specification

In the Official Action, the Examiner has objected to the Abstract as not being on a separate sheet. Applicants have presented an Abstract herewith on a separate sheet, apart from any other text, as required by the Examiner.

The Examiner has furthermore objected to the specification as not providing proper antecedent basis for the subject matter of claims 8 and 10 as required under M.P.E.P. § 608.01(o). Claim 8 has been amended to reverse the terminology "first chamber" and "second chamber" in the claimed connections. Applicants submit that the terminology of claim 8 now agrees with the specification at page 6, line 23 – page 7, line 2, where those connections are described with reference to FIG. 12.

Claim 10, also mentioned in the objection, has been withdrawn by the Examiner.

Applicants therefore assert that the specification now provides proper basis for claim terminology for all claims under examination under 37 C.F.R. § 1.75(d)(1) and M.P.E.P. § 608.01(o).

Claim Rejections, Indefiniteness

The Examiner has rejected claim 4 under 35 U.S.C. § 112, second paragraph, as indefinite for claiming “higher” or “lower” in the alternative. Applicants have amended claim 4 to claim only the “higher” embodiment, and have added claim 14 to claim the “lower” embodiment. Applicants submit that both claims 4 and 14 now meet the definiteness requirements of 35 U.S.C. § 112.

Claim Objections

In the Office Action, the Examiner has objected to claim 8, alleging that its subject matter must be incorporated into the specification and claims. Applicants submit that the subject matter of claim 8, as amended, is contained in the specification at least in the paragraph at page 6, line 23 – page 7, line 2, and in FIGS. 12-14 of the drawings.

Claim Rejections Based on Cited Art*The Present Application*

The present invention is directed to a scroll wall arrangement, a scroll compressor and a differentially pumped system. The scroll wall arrangement includes first and second inlets 92, 96 leading to first and second flow paths 90, 98, respectively. The second inlet 96 is isolated from the first flow path 90. For example, as shown in FIG. 6(b), the second inlet 96 may be isolated from the first flow path by the creation of crescent-shaped pockets in the flow paths by orbital motion of the scroll walls. Those pockets isolate arcuate portions of flow in the paths (see present specification at page 1, lines 20-31; page 7, lines 14-29).

In the embodiment shown in FIG. 6(a) of the present disclosure, a first flow path 90 from a first inlet 92 and a second flow path 98 from a second inlet 96 merge to form a merged flow path (labeled “90,98” in FIG. 6(a)).

In the Office Action, claims 1, 3-5 and 13 were rejected under 35 U.S.C. § 102(b) as being anticipated by either of U.S. Patent No. 4,696,627 to Asano et al. (“Asano”) and U.S. Patent No. 5,103,652 to Mizuno et al. (“Mizuno”); and claim 8 was rejected under 35 U.S.C. §

103(a) as being unpatentable over Asano in view of U.S. Patent No. 4,919,599 to Reich et al. ("Reich").

#### *The Cited Art*

The Asano patent is directed to a scroll compressor configuration having two inlet ports 9, 11 (Asano, FIG. 11). The configuration includes two separate working chambers 30, 31 that receive fluid from the two inlet ports 9, 11, respectively. Both working chambers 30, 31 terminate at a common discharge port 27a, and are separate for their entire length.

Mizuno discloses a refrigerator having a scroll-type compressor. The scroll configuration (Mizuno, FIG. 4a) includes a gas suction hole 110 and a gas discharge hole 113 (Mizuno, col. 4, line 56 – col. 5, line 7). A liquid injection hole 112 and gas injection holes 111 are formed between the gas suction hole 110 and the gas discharge hole 113 in the flow path defined by the scroll walls.

Reich teaches a leak detection system that incorporates two turbomolecular pumps 3, 5, each evacuating a respective chamber 1, 2.

#### *Claims 1, 3-5, 8 & 14*

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)).

Applicants submit that claim 1, as amended, is novel and non-obvious over the cited Asano and Mizuno references.

As to Mizuno, Applicants assert that that reference does not teach or suggest the claim limitation: "*wherein the second inlet is isolated from the first flow path.*" Such an arrangement is shown, for example, in the scroll wall arrangement of FIGS. 6(a), 6(b). The second inlet 96 is isolated from the first flow path 90 by seals formed by contact between the fixed scroll wall 88 and orbiting scroll wall 89 over one or more wraps of the scroll (present specification at FIG. 6(b); page 7, line 31 – page 8, line 7).

In contrast, Mizuno clearly shows that the gas suction inlet 110, liquid injection inlet 112 and gas injection inlets 111 are all within the *same* flow path leading to the gas discharge 113

(Mizuno, FIG. 4a; col. 5, lines 2-4). Inlets in the same flow path cannot be said to be isolated from that flow path, as required by claim 1. Applicants therefore assert that claim 1 is neither taught nor suggested by the Mizuno reference.

As to the Asano reference, Applicants have amended claim 1 by adding the following limitation:

wherein the first and second flow paths converge to form a merged flow path.

Support for that amendment may be found in the present specification at least at page 8, lines 2-4. Applicants assert that the working chambers 30, 31 of Asano do not merge to form a merged flow path, but are instead separate flow paths that communicate only to discharge at the discharge port 27a (Asano, col. 9, lines 47-68). Asano therefore does not teach or suggest flow paths converging to form a merged flow path as required by amended claim 1.

Applicants therefore assert that claim 1 is novel and non-obvious over the cited references. Applicants further submit that claims 3, 4 and 14, which depend from claim 1 and incorporate its limitations, are patentable for at least the same reasons.

Independent claims 5 and 8, which contains limitations similar to those discussed above with reference to claim 1, is asserted to be patentable over the cited references for the same reasons.

### *Claim 13*

Applicants assert that neither Asano nor Mizuno teach or suggest all the limitations contained in claim 13. Claim 13 requires that the second inlet be isolated from the first flow path “*by one revolution of the fixed scroll wall.*” In contrast, Mizuno show no isolation, as noted above. Asano shows each inlet 9, 11 being isolated from the opposite working chamber by at least two revolutions of the fixed scroll wall, as shown clearly in FIG. 7. Neither reference therefore shows the second inlet isolated from the first flow path “*by one revolution of the fixed scroll wall*” as required by claim 13.

Claim 13 further requires “*the second flow path extend[ing] from the second inlet through 360° where it merges with the first flow path.*” Asano does not disclose such a configuration. Asano does not teach “merging” of the first and second flow paths. Instead, the flow paths *end* at the discharge outlet 27a. Even, however, if Asano were interpreted as teaching the first and second flow paths merging at the discharge outlet 27a, such “merging” would be at

least two revolutions, or 720°, from the second inlet. Asano therefore does not teach merging at 360° from the second inlet, as required by claim 13.

Applicants therefore submit that neither Asano nor Mizuno teaches or suggests all the limitations of claim 13, and that claim 13 is therefore novel and non-obvious over those references.

*Conclusion*

Applicants therefore assert that pending claims 1, 3-5, 8, 13 and 14 are in condition for allowance, and earnestly request that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate in contacting the undersigned at the number provided below.

Respectfully submitted,



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